

BEFORE THE

# Federal Communications Commission

In the Matter of

Amendment of Section 73.622(i)	)	MB Docket No. 09-115
Final DTV Table of Allotments,	)	RM-11543
Television Broadcast Stations	)	
(Fond du Lac, Wisconsin)	)	

FILED/ACCEPTED

To: Office of the Secretary  
Attention: Chief, Media Bureau

SEP 18 2009

Federal Communications Commission  
Office of the Secretary

## ERRATUM TO PETITION FOR RECONSIDERATION

WDJT-TV Limited Partnership ("WDJT") hereby corrects its September 11, 2009 Petition for Reconsideration submitted in this proceeding to supply a complete copy of the Technical Exhibit that was attached to the petition. Due to oversight, the copy of the Technical Exhibit that was attached to the petition did not contain the associated Figures 1 through 10 of the Technical Exhibit. A copy of the Technical Exhibit containing Figures 1 - 10 is attached to this Erratum.

Respectfully submitted



J. Brian DeBoice  
**COHN AND MARKS, LLP**  
1920 N Street, N.W., Suite 300  
Washington, DC 20036  
(202) 452-4844

Counsel to **WDJT-TV LIMITED PARTNERSHIP**

Dated: September 18, 2009

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TECHNICAL EXHIBIT  
PETITION FOR RECONSIDERATION OF  
WDJT-TV LIMITED PARTNERSHIP  
CONCERNING THE  
REPORT AND ORDER TO  
MODIFY THE DTV TABLE OF ALLOTMENTS  
STATION WWAZ-DT  
FOND DU LAC, WISCONSIN

This Technical Exhibit was prepared on behalf of WDJT-TV Limited Partnership and supports its Petition for Reconsideration of the Report and Order (R&O) in MM Docket No.09-115 (RM-11543). The R&O changed the post transition DTV allotment for station WWAZ at Fond du Lac, Wisconsin from channel 44 to channel 5. Particular issues in regard to the Commission's reasoning in the R&O are discussed in detail below.

Loss of Existing Television Service

An analysis of the WWAZ loss areas was conducted based on the normal calculation methods outlined in the FCC Rules. The calculation of the WWAZ analog loss area is based on the use of the predicted Grade B contour as defined in Section 73.683 of the FCC Rules. Section 73.683(a) defines the Grade B contour for analog television stations as equivalent to the f(50,50) 64 dBu contour for stations on Channels 14 through 69. The analog Grade B contour was calculated according to Section 74.684, which defines the procedure for obtaining terrain elevation averages and the calculation of the distances to the predicted contour. In this case, high-resolution U.S.G.S. 3-second terrain data were employed in the determination of the average terrain elevations using radials spaced every 10-degrees starting at true north. For the WWAZ digital service area, a similar procedure was followed as for WWAZ analog, using the equivalent Grade B service contour for the WWAZ digital 'Appendix B' facility. The equivalent Grade B service contour was based on Section 73.622(e) of the FCC Rules, which is the 41 dBu, f(50,90) contour.

Similarly, the predicted WWAZ digital Channel 5 equivalent Grade B contour, or 28 dBu noise-limited contour, was calculated and projected on a map based on the procedures outlined in Section 73.625 of the FCC Rules. The predicted noise-limited service contours for

the WWAZ digital replacement translators (DRT's) were calculated in a likewise manner. It is noted that a dipole-adjustment factor was not employed for any station, as this is not part of the FCC Rules, which define the respective service contours.

As was previously demonstrated in the Technical Exhibit supporting the Comments of WDJT-TV Limited Partnership, the WWAZ analog Grade B loss area contains a population of 43,824 based on 2000 Census data. It was also shown that the WWAZ digital service loss area contains a population of 191,494 based on 2000 Census data.

Using the projected noise-limited service contours for the DRT's of 41 dBu, the composite service within the respective WWAZ loss areas was calculated. The composite service area of the DRT's serve a population of 24,606 within the WWAZ analog loss area and a population of 24,682 within the WWAZ digital loss area.

Therefore, it was calculated that the predicted WWAZ analog unserved loss area including DRT's is 19,218 persons and the WWAZ digital unserved loss area considering DRT's is 166,812. Based on these results 43.9% of the population within the WWAZ analog loss area and 87.1% of the WWAZ digital loss area will be unserved as a result of the proposal.

Figure 1 is a map illustrating the predicted WWAZ analog loss area and Figure 2 is a map illustrating the WWAZ digital loss area. The predicted WWAZ analog and digital loss areas are highlighted with a yellow tint. The table below summarizes the results:

<b>Area of Interest</b>	<b>Population (2000)</b>
WWAZ Analog Loss Area	43,824 (100.0%)
WWAZ Analog Loss Area Served by DRT's	24,606 (56.1%)

<b>Area of Interest</b>	<b>Population (2000)</b>
WWAZ Analog Loss Area <u>Not served</u> by DRT's	19,218 (43.9%)
WWAZ Digital Loss Area	191,494 (100.0%)
WWAZ Digital Loss Area Served by DRT's	24,682 (12.9%)
WWAZ Digital Loss Area <u>Not served</u> by DRT's	166,812 (87.1%)

It is noted that the FCC R&O indicated that "...the digital replacement translators would restore service to all but 2,086 of the 186,253 persons who would lose primary service from WWAZ's proposal..." However, as indicated above, these figures are incorrect on both counts as there are actually 43,824 persons that would lose WWAZ's primary analog service and service to only 56.1% of these, or 24,606, would be restored; with 43.9%, or 19,218 persons losing service.

The figure of 186,253 in the R&O appears to have been taken from the WWAZ License, LLC 'Amendment to Petition for Rulemaking', at Exhibit G-6, which was filed with the FCC on August 22, 2008. This population figure was actually for the WWAZ digital Appendix B allotment 41 dBu loss area with respect to the proposed 28 dBu service area of WWAZ digital Channel 5 allotment.

The 2,086 figure in the R&O appears to have been taken from the Engineering Statement contained within the 'Further Supplement to Petition for Rulemaking' filed with the FCC on June 16, 2009. The Engineering Statement also lists the total population within the loss area as 20,613, which is in contrast to the figure that is demonstrated herein of 43,824. It appears that the reason for the difference in the population figures is a difference in the projected

WWAZ analog Grade B contour. It can only be assumed that the dipole adjustment factor was employed in the calculation of the WWAZ Grade B contour as depicted in the WWAZ Engineering Statement, which would be equivalent to the 66.3 dBu contour instead of the 64 dBu contour employed herein. Because the FCC Rules at Section 73.683(a) specifically define the UHF Grade B contour as equivalent to the 64 dBu f(50,50) contour, this value should be employed in the WWAZ analog loss area calculations.

The FCC's database has been used to determine the number of other authorized services available to the WWAZ analog and digital loss areas. Only authorized (license or construction permit) operations were considered. For full service stations, authorized post transition DTV operations are included. Authorized Class A analog and digital stations were considered. Figure 5 is a listing of the stations considered for the other services showing.

Figure 6 is a map showing the WWAZ analog and digital loss areas and the contours for the other services available to the loss areas. The letters on the map identify contours for stations listed in Figure 5. The numerical figures on the map indicate the number of other services available to that loss area. Figures 3 and 4 show the WWAZ analog and digital loss areas considering the DRT's, with the other service analysis. The table below summarizes the results of the other services analysis:

Area of Interest		Population (2000)
WWAZ Analog Loss Area	3 Other Services	0
	4 Other Service	142
	5 or more Other Services	43,682

<b>Area of Interest</b>		<b>Population (2000)</b>
WWAZ Digital Loss Area	3 Other Services	36
	4 Other Service	2,473
	5 or more Other Services	188,985
WWAZ Analog Loss Area Considering Service from DRT's	3 Other Services	0
	4 Other Service	100
	5 or more Other Services	19,118
WWAZ Digital Loss Area Considering Service from DRT's	3 Other Services	27
	4 Other Service	2,323
	5 or more Other Services	164,462

**WWAZ Existing Tower**

In its reply comments, WWAZ License, LLC states that the existing WWAZ tower on which the WWAZ-DT antenna is to be located would not support the additional weight, and that therefore a new site and DTV channel was necessary. The FCC R&O also

makes note of this point. This issue was scrutinized further based on a review of the FCC's engineering records for WWAZ.

Based on the FCC's CDBS engineering database, WWAZ analog first began broadcasting in December 2000 (See FCC File No. BLCT-20001211AEA) with a facility on Channel 68 having a maximum effective radiated power (ERP) of 35 kW. In December 2003, it filed an application with the FCC for the analog facility that would ultimately be constructed at the present site, with a maximum ERP of 4,986 kW at the location of the now existing WWAZ tower. Based on the FCC antenna structure registration for this tower (See Antenna Structure Registration Number 1241313), the WWAZ tower was constructed on September 7, 2004. The application for license to cover the WWAZ(TV) analog facility was filed on October 18 of that same year (See FCC File No. BLCT-20041018ABF).

The application for the WWAZ digital facility on Channel 44 was filed on February 9, 2004 (See FCC File No. BMPCDT-20040209ABG) for its 700 kW ERP facility, which is also equivalent to its 'Appendix B' DTV facility. This filing occurred approximately 7 months before the WWAZ tower was constructed. In the applications for the WWAZ(TV) facility and WWAZ-DT, the height of the WWAZ-DT facility is listed as 143 m above ground and the height of the WWAZ(TV) facility is listed as 142.6 m above ground. The FCC record indicates that the tower was constructed within the last five years and that it appears likely that it was constructed to support both the analog and digital facilities. Inspection of a satellite image of the site indicates that the WWAZ tower was constructed with a candelabra type tower arrangement on the top of the tower that allows for more than one top-mounted antenna.<sup>1</sup>

While it may be that there are structural issues that would prevent the installation of the WWAZ-DT antenna as it is now specified on the existing WWAZ tower, it is very likely that the old WWAZ(TV) Channel 68 antenna could be removed and an antenna with no greater height and weight substituted for it on Channel 44. WWAZ License, LLC has not given any explanation as to why this could not be done, or why, in particular, the recently constructed WWAZ tower could not support the WWAZ-DT antenna.

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<sup>1</sup> For example, see satellite image at <http://maps.google.com/> with the coordinates of the WWAZ tower location, 43 26'20"N 88 31'29.4"W, specified in the search box.

The FCC engineering records indicate that the antenna for the WWAZ(TV) facility is an ERI model ATW29H3-CTT1-68M (See FCC File No. BLCT-20041018ABF). Based on the ERI electronic catalog information for this antenna, it would have an overall height of 41.4 ft and 44.4 ft with a top-mounted beacon. See Figure 7.

The antenna for the WWAZ-DT facility is listed in its construction permit as an ERI model ATW30HS3-CTT1-44H. This antenna would have an overall height of 51.9 ft and 54.9 ft with a top-mounted beacon. However, this antenna could easily be substituted with an antenna of lower gain and which would be shorter in length and lighter than the WWAZ(TV) antenna. For example, if an ERI model ATW23H3-HTT1-44H were specified it would be only 40.1 ft in length and 43.1 ft with top-mounted beacon. See Figure 8. The reduction in gain could be compensated for by a change in the polarization specification from 'circular' to 'horizontal'. That would result in a lesser transmitter power output requirement than using the authorized antenna with 700 kW circularly polarized. Figure 9 is an excerpt from the WWAZ-DT Engineering Exhibit demonstrating that the proposed transmitter power output for the circularly polarized WWAZ-DT is 29.2 kW. Figure 10 is the output of the ERI electronic catalog indicating that the transmitter power output required for the shorter and lighter antenna would be only 19.5 kW using a horizontally polarized design.

Based on this, there is reason to believe that there are engineering solutions to the WWAZ tower problem that would not necessitate the simple disqualification of the WWAZ tower as a usable site for WWAZ-DT on Channel 44. In fact, the FCC engineering records leave reason to believe that the WWAZ tower could be used for the WWAZ digital facility with proper consideration of the engineering issues inherent with such a design.



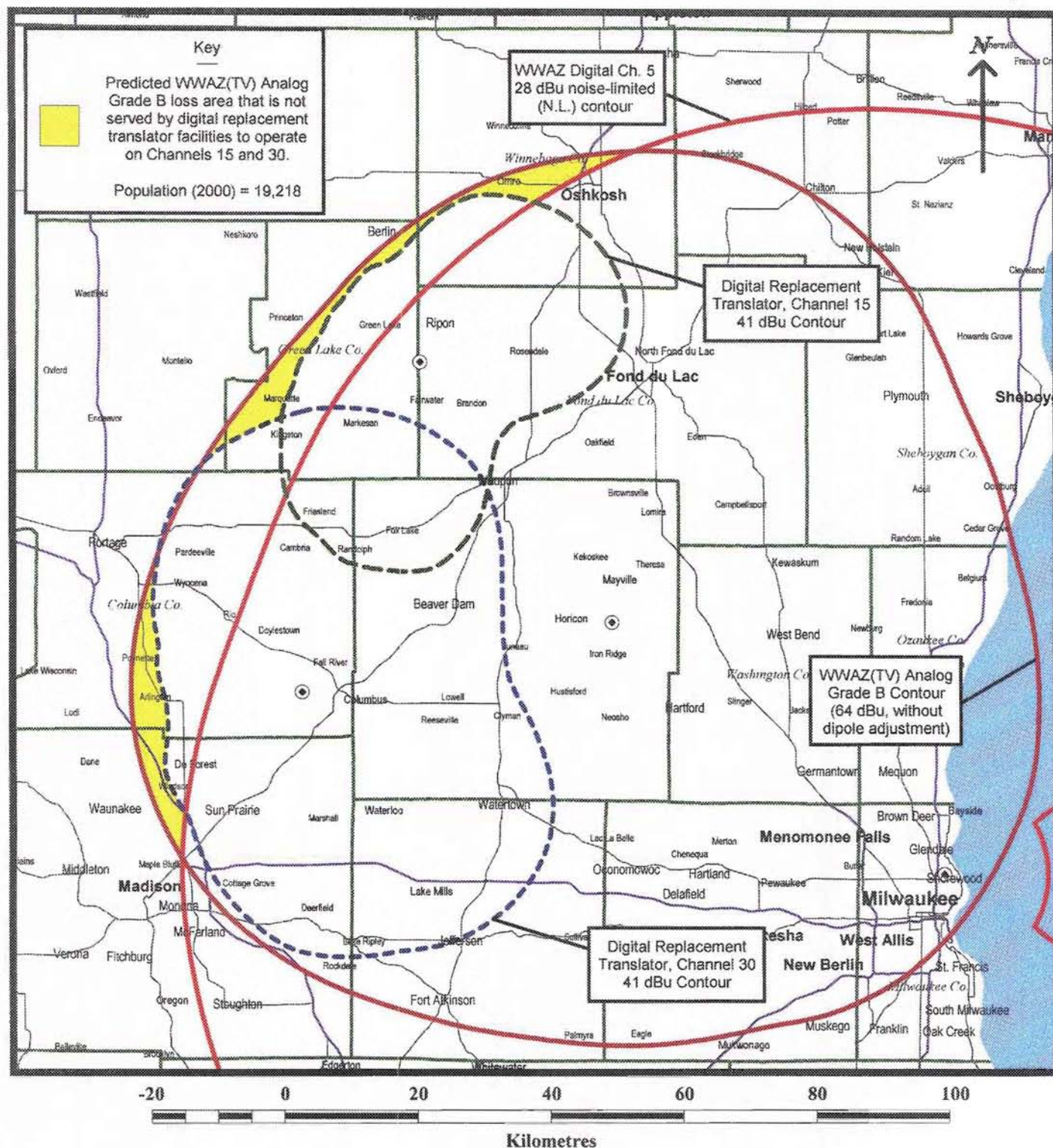
If there are questions concerning this statement, please communicate with the office of the undersigned.

Louis R. du Treil Jr.

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Ave.  
Sarasota, Florida 34237  
(941) 329-6000  
bobjr@DLR.com

August 20, 2009

Figure 1

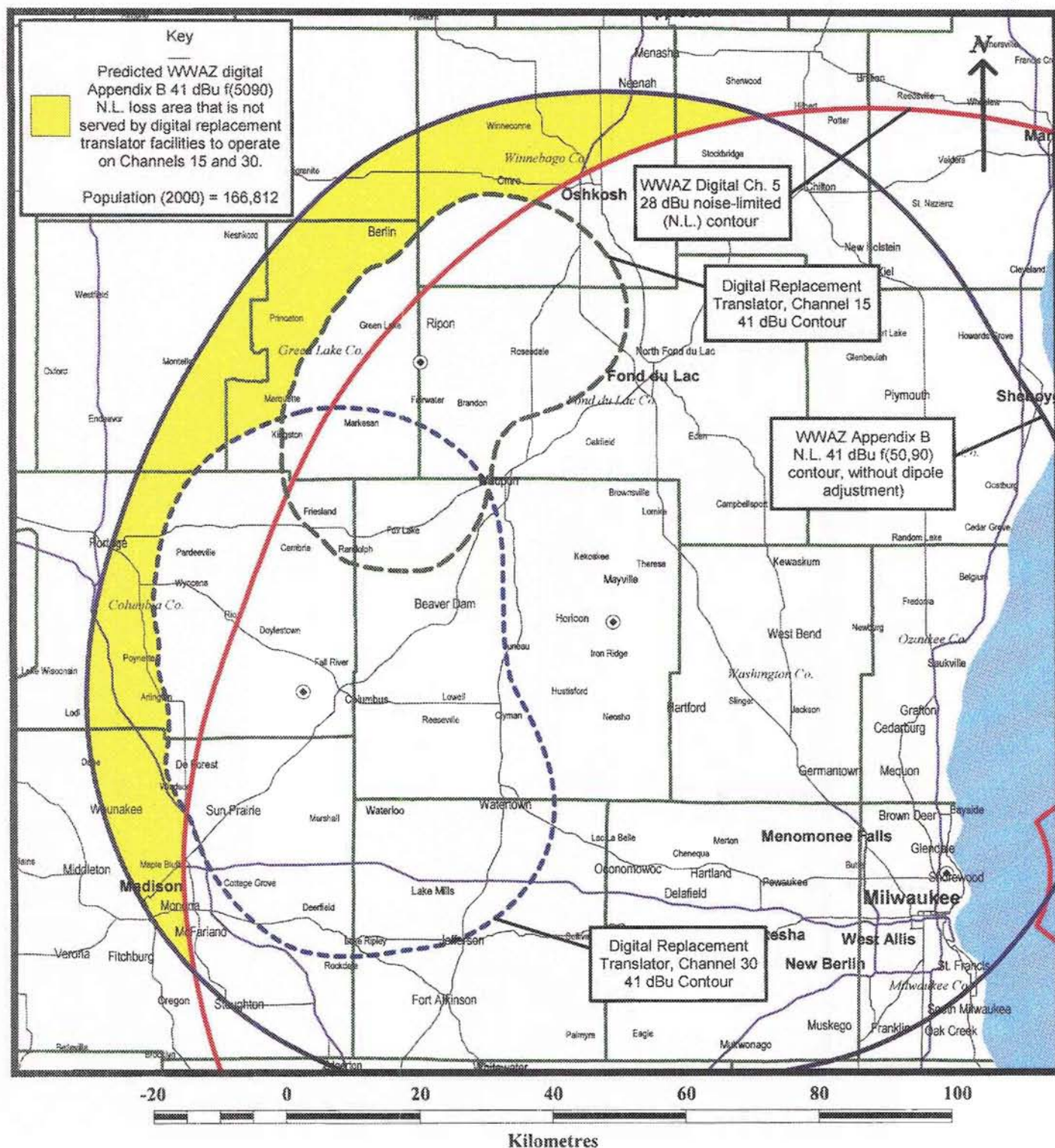


## PREDICTED WWAZ(TV) ANALOG GRADE B LOSS AREA THAT IS UNSERVED BY PROPOSED DIGITAL REPLACEMENT TRANSLATOR FACILITIES

duTreil, Lundin & Rackley, Inc. Sarasota, Florida



Figure 2

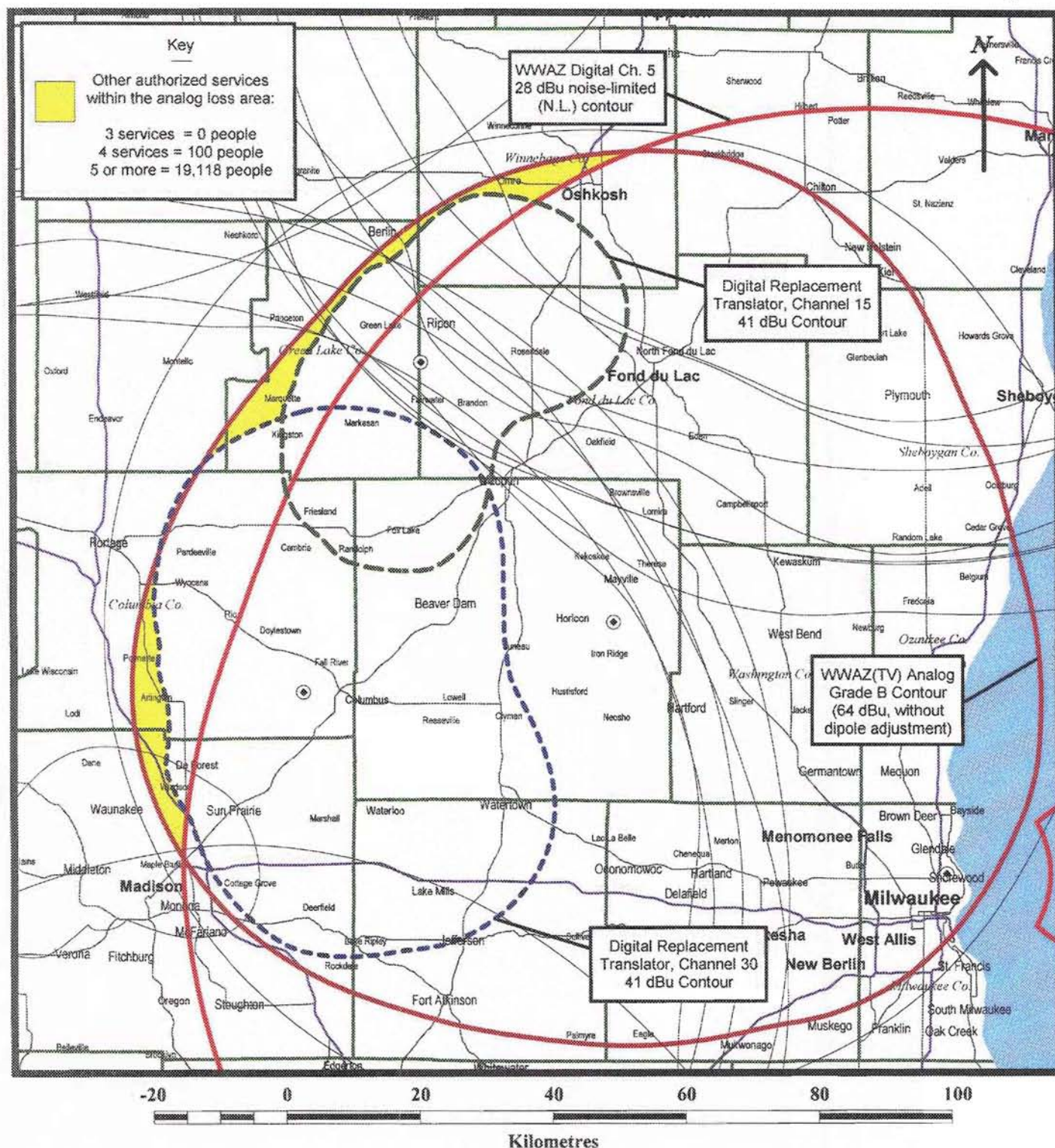


PREDICTED WWAZ DIGITAL 41 DBU F(50,90) N.L.  
LOSS AREA THAT IS UNSERVED BY PROPOSED  
DIGITAL REPLACEMENT TRANSLATOR FACILITIES

duTreil, Lundin & Rackley, Inc. Sarasota, Florida



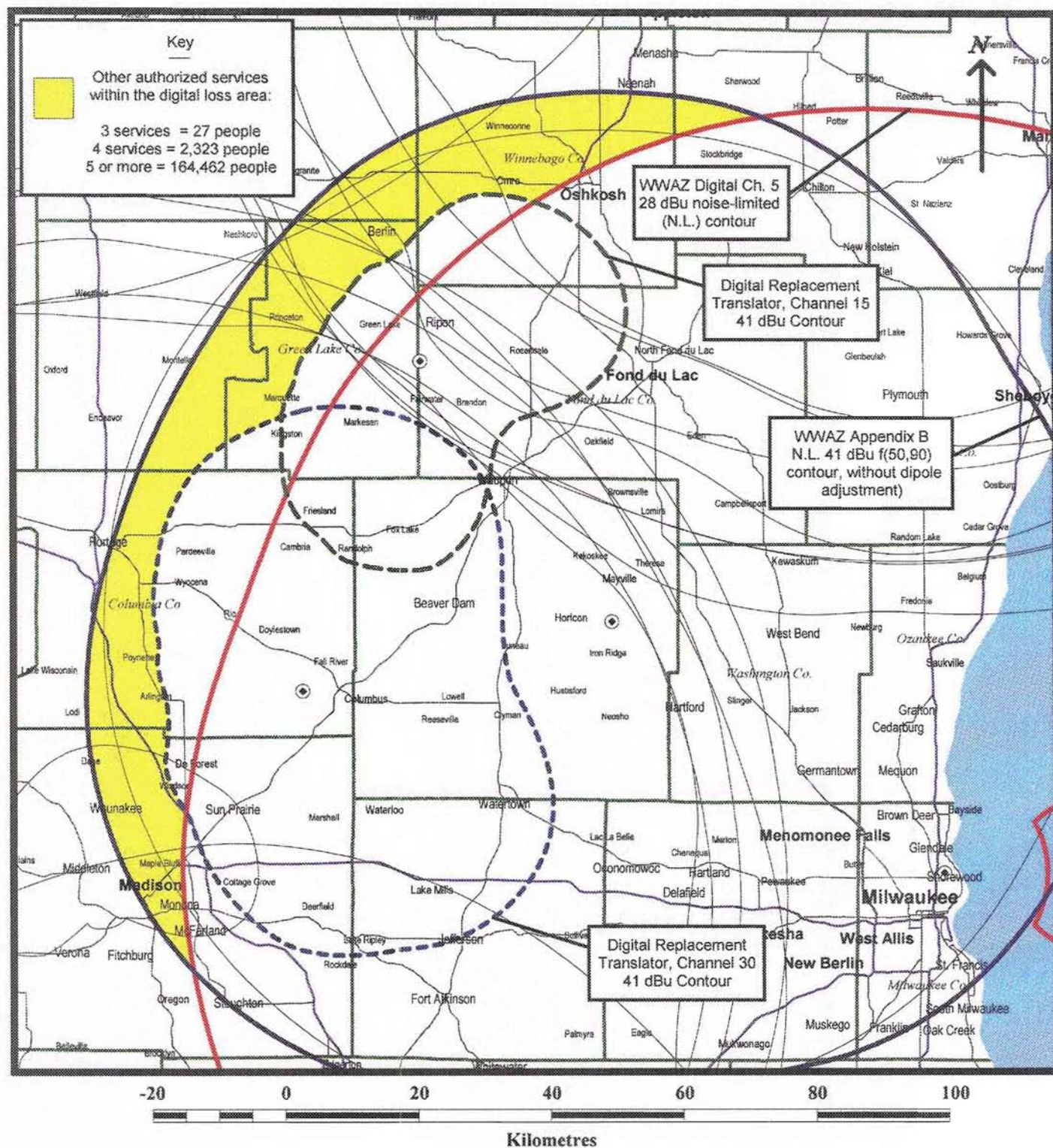
Figure 3



PREDICTED WWAZ(TV) ANALOG GRADE B  
LOSS AREA THAT IS UNSERVED BY PROPOSED  
DIGITAL REPLACEMENT TRANSLATOR FACILITIES  
WITH OTHER AUTHORIZED SERVICES ANALYSIS



Figure 4



PREDICTED WWAZ DIGITAL 41 DBU F(50,90) N.L.  
LOSS AREA THAT IS UNSERVED BY PROPOSED  
DIGITAL REPLACEMENT TRANSLATOR FACILITIES  
WITH OTHER AUTHORIZED SERVICES ANALYSIS

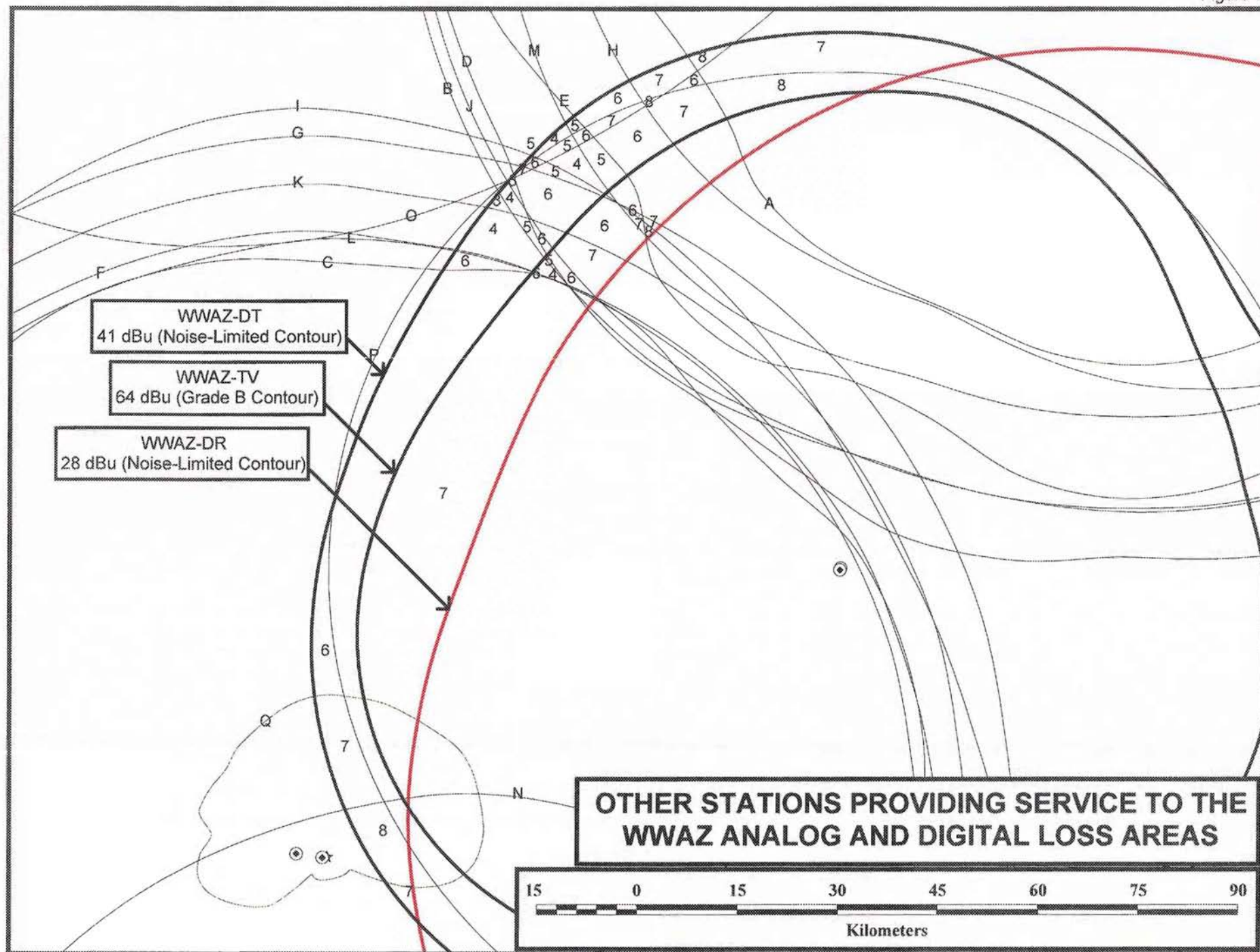
Figure 5

## Other Stations Providing Service to the WWAZ Digital and Analog Loss Area

ID	Call Sign	City	State	Status
A	WACY-DT	APPLETON	WI	CP MOD
B	WBAY-DT	GREEN BAY	WI	LIC
C	WBUW	JANESVILLE	WI	LIC
D	WFRV-DT	GREEN BAY	WI	LIC
E	WGBA-DT	GREEN BAY	WI	CP MOD
F	WHA-TV	MADISON	WI	CP
G	WISC-DT	MADISON	WI	CP
H	WIWB	SURING	WI	CP MOD
I	WKOW-DT	MADISON	WI	CP
J	WLUK-DT	GREEN BAY	WI	CP
K	WMSN-DT	MADISON	WI	CP
L	WMTV	MADISON	WI	CP
M	WPNE-DT	GREEN BAY	WI	LIC
N	WREX-DT	ROCKFORD	IL	CP MOD
O	WSAW-DT	WAUSAU	WI	CP MOD
P	WWRS-DT	MAYVILLE	WI	LIC
Q	W23BW	MADISON	WI	LIC



Figure 6



## **PRELIMINARY SPECIFICATION FOR ERI TRASAR® ELLIPTICALLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA**

### **MECHANICAL CHARACTERISTICS:**

#### **MOUNTING CONFIGURATION:**

Top Mount

\*(Tower Interface supplied and  
installed by others.)

HEIGHT OF ANTENNA:

41.4 feet

HEIGHT OF CENTER OF  
RADIATION:

20.7 feet

OVERALL HEIGHT (A):

44.4 feet

DEICING:

Pressurized Radome Enclosure

RADOME DIAMETER (C):

CONTACT ERI

RADOME COLOR:

AVIATION ORANGE (standard)

CLIMBING DEVICE:

Galvanized Steel Pole

CALCULATED WEIGHT<sup>1</sup>:

CONTACT ERI

ANTENNA AREA:

CONTACT ERI

MOUNTING FLANGE:

CONTACT ERI

***This antenna is designed to be supported by a structure that can resist the antenna base reactions and which provides a support that is rigid in the three transitional and three rotational degrees of freedom.***

<sup>1</sup> Calculated weight is based on the PRELIMINARY design of the antenna. The actual weight of the antenna will be within  $\pm 10\%$  of the calculated weight. The actual weight will be given in the technical manual that accompanies the antenna. This figure is for the antenna only and does not include the antenna input section.

***Note: Localized conditions may require higher wind speed specifications than TIA/EIA specifications. Check with local authorities to verify wind speed requirements.***



## **PRELIMINARY SPECIFICATION FOR ERI TRASAR® HORIZONTALLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA**

### **MECHANICAL CHARACTERISTICS:**

#### **MOUNTING CONFIGURATION:**

*Top Mount*

*\*(Tower interface supplied and  
installed by others.)*

HEIGHT OF ANTENNA:

*40.1 feet*

HEIGHT OF CENTER OF  
RADIATION:

*20.0 feet*

OVERALL HEIGHT (A):

*43.1 feet*

DEICING:

*Pressurized Radome Enclosure*

RADOME DIAMETER (C):

*CONTACT ERI*

RADOME COLOR:

*AVIATION ORANGE (standard)*

CLIMBING DEVICE:

*Galvanized Steel Pole*

CALCULATED WEIGHT<sup>1</sup>:

*CONTACT ERI*

ANTENNA AREA:

*CONTACT ERI*

MOUNTING FLANGE:

*CONTACT ERI*

***This antenna is designed to be supported by a structure that can resist the antenna base reactions and which provides a support that is rigid in the three transitional and three rotational degrees of freedom.***

<sup>1</sup> Calculated weight is based on the PRELIMINARY design of the antenna. The actual weight of the antenna will be within  $\pm 10\%$  of the calculated weight. The actual weight will be given in the technical manual that accompanies the antenna. This figure is for the antenna only and does not include the antenna input section.

***Note: Localized conditions may require higher wind speed specifications than TIA/EIA specifications. Check with local authorities to verify wind speed requirements.***

EXHIBIT C

PROPOSED OPERATING PARAMETERS

PROPOSED WMMF-DT  
CHANNEL 44 – FOND DU LAC, WISCONSIN  
[MODIFICATION OF BMPCDT-20000908ABG]

Transmitter Power Output:	29.2 kw
Transmission Line Efficiency:	87.7%
Antenna Power Gain – Main Lobe:	27.31(H, V)
Effective Radiated Power – Main Lobe:	700 (H, V)

Transmitter Make and Model:	Type-accepted
Rated Output	30 kw

Transmission Line Make and Model:	Andrew MACX675
Size and Type:	6 1/8" rigid
Length:	490 feet

Antenna Make and Model:	Andrew ATW30HS3-CTT1-44H
Orientation	0, 120, 240 degrees true
Beam Tilt	0.75 degrees
Effective Height Above Ground:	143 meters
Effective Height Above Mean Sea Level:	491 meters

## Broadcast Antenna System Power Analysis

### Channel 44

### ATW23H3-HTT1-44H

#### ANTENNA PARAMETERS

##### Azimuth Directivity:

Hor. Pol: 1.78  
dBd: 2.50

##### Elevation Directivity:

Hor. Pol: 23.00  
dBd: 13.62

#### TRANSMISSION LINE:

##### VERTICAL RUN:

Type: MACX675B  
Length, ft: 450 ft.  
Attenuation, dB/100 ft: 0.116 dB/100 ft.

##### HORIZONTAL RUN:

Type: MACX675B  
Length, ft: 40 ft.  
Attenuation, dB/100 ft: 0.116 dB/100 ft.

Line Efficiency: 87.69 %

#### ERP:

kW: 699.99  
dBk: 28.45

#### POWER GAIN:

Ratio: 40.94  
dBd: 16.12

#### ANTENNA INPUT:

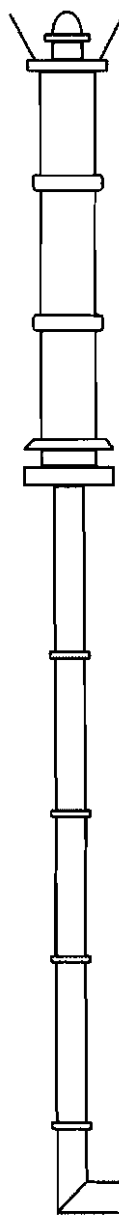
kW: 17.10  
dBk: 12.33

#### LINE LOSS:

kW: 2.40  
dB: 0.57

#### TRANSMITTER POWER:

kW: 19.50  
dBk: 12.90



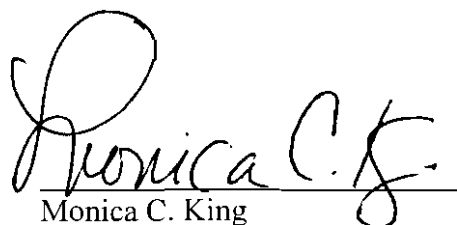
## CERTIFICATE OF SERVICE

I, Monica C. King, hereby certify that on this 18th day of September, 2009, I caused a copy of the foregoing "Erratum to Petition for Reconsideration" to be sent by first class United States mail, postage prepaid, to the following:

Kathleen Victory, Esq.  
Fletcher, Heald & Hildreth, PLC  
1300 North 17th Street, 11th Floor  
Arlington, VA 22209

Mark Van Bergh, Esq.  
2538C South Arlington Mill Drive  
Arlington, VA 22206

Joan Stewart, Esq.  
Matthew L. Gibson, Esq.  
Wiley Rein LLP  
1776 K Street NW  
Washington, DC 20006

  
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Monica C. King